

The Influence of Environmental Management Accounting Application and Operational Strategies on Waste Management Costs in RSIA Siti Hawa

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ABSTRACT

This study aims to determine and analyze the effect of implementing environmental management accounting and operational strategies on waste management costs at RSIA Siti Hawa either partially or simultaneously. The data collection method used in this research uses field research and library research. The data analysis method in this study used multiple linear regression. The results of this study indicate that: The application of environmental management accounting partially affects the cost of waste management. This can be seen from the value of $t_{count} > t_{table}$ ($3.385 > 2.0244$) or a significant value of 0.002, more diminutive than 0.05. Operational strategy partially affects the cost of waste management. This can be seen from the value of $t_{count} > t_{table}$ ($2.110 > 2.0244$) or a significant deal of 0.042, more diminutive than 0.05. The application of environmental management accounting and operational strategies simultaneously affects the cost of waste management; this can be seen from the value of $F_{count} > F_{table}$ ($13.680 > 3.24$) or a significant value of 0.000, which is smaller than 0.05.

Keywords: *Application of environmental management accounting; operational strategy on waste management costs.*

1. INTRODUCTION

The environment is everything around us. A good environment is an environment that is constantly maintained and cared for so that the natural environment around us remains beautiful, especially in an environment built by the company.

The company established is a company that has a close relationship with the community in the area around the environment. The company's environmental performance can see a good company. The better the company's performance will directly affect company profits. Business performance results from work that has a strong relationship with the company's strategic objectives by prioritizing customer satisfaction and contributing to the business economy.

To improve business performance, companies must strive to implement a program or activity and policies in realizing the company's goals, objectives, vision, and

mission as outlined through strategic or corporate planning. However, the company's performance will experience problems to achieve company goals if the environment around the business is not well maintained. This gives a negative picture of the community towards the company, thereby reducing income and community participation, it makes the company's performance decline. This is in line with the case in Sungai Ibeet in Taman Mekar Village, Sub-district of Foaming Waste, on April 8, 2019. The local community reported to DHLK that PT Pindo Deli Pulp and Paper failed to handle the liquid waste.

Environmental pollution caused by the company's operational activities and waste management costs is affected by ecological management accounting and active strategies. Environmental management accounting is regulated by ecological management accounting which requires financial management standards, in Indonesia called by *Pernyataan Standar Akuntansi Keuangan (PSAK)* in its implementation. The

standard currently seen related to ecological activities is PSAK No. 1 regarding presenting financial statements PSAK No. 57 concerning province, contingent liabilities, and contingent assets. Implementing an excellent environmental management system will reduce waste management costs, increasing company profits. Minimizing the amount of waste that comes out has also been systematically regulated by applying operational standards for work activities so as not to be wasteful or minimize waste expenditure. Research conducted by Fika Erisya Islamey states that using management accounting and operations strategy significantly affects the cost of waste management [1].

Environmental management accounting is one of the groupings of records and transactions presented by the company in reports on the environment around the business. The ecological management accounting report results can help the company's management see an increase in the company's efforts in protecting the environment without damaging and always keeping the environment natural.

In environmental management accounting reports, management can provide environmental management decisions or make budgets in managing the environment and tackling ecological waste generated by the company into other income.

For that, we need to apply in companies that are closely related to the environment to use environmental management accounting systems. It aims to protect the environment in the company. Suppose the existing environment in the company can be appropriately maintained. In that case, we can conclude that environmental management accounting is going well. Still, on the contrary, if the company's environment is damaged, we can end that environmental performance or management is less realized or even non-existent. Because in ecological management accounting, a budget is made or the costs incurred in maintaining the environment around the company. A study conducted by Aldy V. J Ratulangi stated that the application of environmental management accounting has a significant positive effect on environmental management costs [2]. This means that the higher the value of the application of management accounting, the higher the cost of environmental management.

Other factors affect the cost of waste management, namely operational strategy. Operational strategy is how the existing operations in the company run well and meet the company's goals in achieving good progress and performance. By properly managing the operating system, the cost of waste management will be terminal so that the company's expenditure on the environment becomes less because the administration has made a

strategy in the company's operations to protect the environment so that the domain is not damaged and has been addressed directly if environmental damage occurs.

For this reason, environmental management cost is needed for calculated the waste management cost. Suppose the ecological management accounting application environment has been carried out. In that case, the company's operational strategy will run well to protect the environment so that the cost of waste management will be small so that the company's profit will be more significant so that it can provide a good company image among the public and the market. This is supported by research conducted by Sanjaya Aji Mahardhika, which states that operational strategies positively affect the cost of environmental waste management [3]. This means that the higher the operating system's value, the higher ecological waste management.

In this study, researchers made the hospital the object of research because, in medical science, many chemicals and germs must contain many chemicals, and germs must be maintained so that exceptional waste management needs to be carried out and considered. The name of the research object is RSIA Siti Hawa. RSIA Siti Hawa is a reasonably large hospital that will produce quite a lot of waste. The waste management process, of course, will result in costs that the hospital will incur to manage the waste.

Based on this, the authors are interested in conducting research related to implementing environmental management accounting and operational strategies on waste management costs in RSIA Siti Hawa. This study aims to determine the effect of the application of environmental management accounting on the cost of waste management at RSIA Siti Hawa, the impact of operational strategies on the cost of waste management at RSIA Siti Hawa, and the effect of the application of environmental management accounting and operating strategies on the cost of waste management at RSIA Siti Hawa.

2. LITERATURE REVIEW

2.1. Cost

Costs are resources that can be measured in units of money, moderate or likely to occur for specific purposes [4]. Costs are cash or cash equivalent values sacrificed to obtain goods or services expected to provide current or future benefits for the organization [5].

The cost is sacrificing economic resources to obtain goods or services expected to provide benefits now or in the future [6]. Based on the above understanding, it can be said that the cost can be

interpreted as the value of the sacrifice to obtain goods or services that are useful for the future or have benefits that exceed one period measured in units of money.

2.2. Environmental Cost

The impact of environmental pollution will lead to losses that the community must bear. These losses are usually in the form of costs incurred to prevent and overcome corruption. These costs are termed environmental costs.

Environmental costs are costs incurred due to low environmental quality due to the company's production process [7]. Environmental costs need to be reported separately based on their cost classification. This is done so that cost reports can be used as information for the company's operational performance, especially those that impact the environment.

Environmental costs are related to the prices of products, processes, systems, or facilities necessary for better management decision-making [8]. The cost objective is to reduce environmental costs, increase revenues and improve environmental performance by paying attention to the current situation.

2.3. Hospital Waste Management

According to the Decree of the Minister of Health of the Republic of Indonesia No. 1204/Menkes/SK/X/2004, hospital management is a series of activities that include collecting, storing, processing, and landfilling medical waste. Hospital management has several essential elements: labeling and packaging, transportation, storage, processing, and waste disposal. The waste system used must be designed to manage contact with hazardous waste. Destruction of medical waste must be done using the incineration method, and it is necessary to maintain the integrity of the packaging when the trash is handled. Many combustion or incineration systems use mechanical equipment. However, efforts to treat medical waste must comply with applicable regulations, and the processing must be environmentally friendly (Depkes RI, 2016).

2.4. Management Accounting

Management accounting is the process of identifying, accumulating, preparing, analyzing, interpreting, and communicating economic events used by management to plan, control, make decisions and evaluate performance in organizations [9]. Management accounting is one of the fields of accounting that studies how to produce financial information for management which will then be used for decision making [10].

According to the Chartered Institute Of Management Accountants (CIMA), management

accounting is the process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of information used by management to plan, evaluate and control within an entity and to ensure accountability for the use of these resources. Management accounting also includes preparing financial statements for non-management groups such as shareholders, creditors, regulatory agencies, and tax authorities.

Based on the above understanding, it can be concluded that management accounting is an accounting system whose primary purpose is to present financial reports that are useful for the benefit of internal parties such as managers.

2.5. Environmental Management Accounting

According to the IFAC statement, the notion of environmental management accounting (EMA) is that environmental management accounting is a term used in several different contexts, including, as follows:

Assessment and disclosure of environmental-related financial information in the context of financial accounting and reporting. The evaluation and use of physical and monetary information relating to the environment in the context of environmental management accounting (AML). Estimates of extraordinary ecological impacts and costs are often considered full cost accounting. Accounting for the supply and flow of natural resources, both physical and monetary, is naturalistic sourcing accounting (NRA). They are reporting organizational level information, natural resource accounting information, and other information for external financial information purposes—considering physical and monetary information related to the environment in the context of sustainable development.

Environmental management accounting is information generated from the environmental management accounting system for internal decision making, where information can be focused physically and monetary [11]. In internal decision-making, environmental, ecological management accounting procedures include physical procedures for material and energy consumption, final flows and wastes, and monetizing methods for costs, savings, and revenues related to activities with potential environmental impacts.

Based on the above understanding, it can be concluded that environmental management accounting is a combination of financial accounting information and cost accounting used to increase efficiency, reduce environmental impacts and risks, and reduce ecological protection costs.

2.6. Operational Strategy

Operations are the most critical factor in a company and become one of the main activities to maintain the viability of a company [12]. Operations has several definitions put forward by several experts as follows:

Operations strategy is a plan to determine the design and use this resource to support business strategy [13]. Operations strategy is a tool to realize the company's vision and mission through operations and production activities [14].

Based on the above understanding, it can be concluded that the operational strategy is a guideline in carrying out an activity to realize the vision and mission.

3. RESEARCH METHOD

3.1. Method of collecting data

Literature review (library research) is research conducted by collecting, reading, and studying literature and books and relevant references to the problems studied to obtain clarity of concepts to prepare a literature review that is useful in the discussion.

Field research (field research) collects data by conducting field surveys that have to do with the problem being studied. This type of research is conducted to obtain primary data.

3.2. Data collection technique

The documentation technique collects data by directly quoting data obtained from related institutions (agencies) related to research.

Interviews were conducted by question and answer to the respondents. This is done to explore, collect, find information needed or related to research.

The questionnaire is a data processing technique by distributing questions to the auditor. This is to obtain information about responses related to the problem under study. The questionnaire is in the form of a series of questions systematically arranged in a list of questions, then given to respondents to fill out. After being filled in, the questionnaire was returned to the researcher; the questionnaire distributed was a list of questions related to the object under study; the questionnaire was accompanied by a letter of application for permission and an explanation of the purpose of the research conducted. In addition, in distributing the questionnaire, clear instructions for filling out the questionnaire were also included to make it easier for respondents to provide complete answers. The scale used is a Likert scale level 1-5.

3.3. Data Types and Data Sources

The type of data used in this study is quantitative data in the form of values or scores for the answers given by respondents to the questions in the questionnaire [15]. Primary data is data obtained directly from the source. This data collection is done by distributing questionnaires to the object of research at RSIA Siti Hawa and filled indirectly by the respondent, where the respondent is an auditor.

Secondary data has been collected for purposes other than solving the problem at hand. This data can be found quickly. In this study, the secondary data sources are literature, articles, journals, and sites on the internet related to the research conducted.

This data is used to support preliminary information that has been obtained from library materials, literature, previous research, books, and so on. Data obtained from archives owned by RSIA Siti Hawa, literature studies, previous research, and journals related to the problems to be studied.

3.4. Population and Sample

The population is the amount of all possible values, both the results of counting and measurement, quantitative or qualitative, based on specific characteristics of the object entirely and clearly [16]. The sample is part of the entire individual, the research object at RSIA Siti Hawa. According to Sugiyono, with a small population, the sampling in this study used the Purposive Sampling method with a total of 41 people [17].

3.5. Classic assumption test

The normality test tests whether the confounding or residual variables have a normal distribution in the regression model as it is known that the t and F tests assume that the residual value follows a normal distribution. If this assumption is violated, the statistical test is invalid for a small sample size. There are two ways to detect whether the residuals are normally distributed or not, namely by graphical analysis and statistical tests. To test whether the data is normally distributed or not, the Kolmogorov-Smirnov test was performed statistically. The residual is usually distributed with a significance value > 0.05 [17].

According to Imam Ghozali, the multicollinearity test tests whether the regression model correlates with independent (independent) variables [18]. To test multicollinearity by looking at the VIF value of each independent variable, if the VIF value is < 10 , it can be concluded that the data is free from multicollinearity symptoms.

The heteroscedasticity test tests whether there is an inequality of variance from one observation to another [18]. The way to detect it is by looking at the presence or absence of a specific pattern on the scatterplot graph between sresid and speed, where the Y-axis is the predicted Y, and the X-axis is the standardized residual (Y indicated Y-true). While the basis for making decisions for the Heteroscedasticity test is: If there is a specific pattern, such as points that form a definite pattern of regularity (wavy, melts, and then narrows), it indicates that heteroscedasticity has occurred. There is no heteroscedasticity if there is no clear pattern and the points spread above and below the number 0 on the Y-axis.

3.6. Data analysis method

3.6.1. Multiple Linear Regression Analysis

Multiple linear regression analysis is used if the independent variables are more than one [16]; the form of the equation is as follows:

$$BPL = \beta_1 PAML + 2X_2 + e$$

Where:

BPL = Waste Management Fee

a = Constant Value

1 = Parameter Coefficient Xq

2 = Parameter Coefficient Xw

PAML = Application of Environmental Management Accounting

SO = Operational Strategy

e = Residual Error

To facilitate the analysis of the data in the discussion of this research, a computer program is used in data processing and data analysis, namely the SPSS program [16].

3.6.2. Coefficient of Determination

The coefficient of determination (R²) essentially measures how far the model can explain variations in the dependent variable. The value of the coefficient of determination is between zero and one. A small matter of R² means that the independent variables' ability to explain the variation of the dependent variable is minimal. A value close to one means that the independent variables provide almost all the information needed to predict the interpretation of the dependent variable [19].

3.6.3. Hypothesis Testing Method

Partial hypothesis testing between the independent variable (Xi), namely the Application of Environmental Management Accounting (X1) and Operational Strategy (X2) on the dependent variable (Y), namely Waste Management Costs, used the Student Test (t-test) (Agussalim M, 2015:98). The t-table value in the student distribution table is determined by the formula = $t(\alpha/2);(N-k-1)$ hypothesis testing criteria:

H₀ is rejected, and H_a is accepted if count table or Sig (prob) < = 5%, this means that the X variable, namely the Implementation of Environmental Management Accounting (X1) and Operational Strategy (X2), has a significant effect on the Y variable Partial Waste Management Costs. H₀ is accepted, and H_a is rejected if count < table or Sig (prob) = 5%, this means that the X variable, namely the Implementation of Environmental Management Accounting (X1) and Operational Strategy (X2), has no significant effect on the Y variable Partial Waste Management Costs. In this study, the data processing results were obtained using the SPSS version 23 statistical data processing program.

Testing the hypothesis simultaneously (simultaneously) between the independent variable (Xi), namely the Application of Environmental Management Accounting (X1) and Operational Strategy (X2) on the dependent variable (Y), namely Waste Management Costs, used Fisher's Test (F-Test) [16].

After obtaining the Fount value, it is then compared with the Ftable value, with the following test criteria: H₀ is rejected if F₀ > F_{ab} or Sig (prob) < = 5%, this means that the variable X is the Application of Environmental Management Accounting (X1) and Operational Strategy (X2) has a significant effect on the Y variable, namely Waste Management Costs simultaneously. H₀ is accepted if F₀ < F_{ab} or sig (prob) = 5%, this means that the X variable has no significant effect on the Y variable simultaneously. In this study, the data processing results were obtained using the SPSS version 23 statistical data processing program.

4. RESULTS AND DISCUSSION

4.1. Respondent Description

4.1.1. Gender

Gender influences each individual to do a field of work in an agency. In table 1, the study results are presented through the distribution of questionnaires based on the gender of the respondents.

Table 1. Description of Respondents by Gender

Gender	Amount	Percentage
Man	11	27 %
Woman	30	73 %
Total	41	100%

Source: Processed Data (2021)

Based on table 1, it can be seen that the majority of respondents are women with a total of 30 people (73%) and men with a total of 11 people (27%). In doing bookkeeping or accounting staff, the dominant gender is women because women's work is more conscientious than men's and document equipment and prepare documents neater than men's.

4.1.2. Respondent Age

A person's age affects the quality of reporting. In table 2, it can be seen the results of research based on age as follows:

Table 2. Description of Respondents by Age

Age	Amount	Percentage
17 – 22 years old	15	37%
23 – 28 years old	22	53%
29 – 34 years old	4	10%
35 – 40 years old	0	0%
> 40 years old	0	0%
Total	41	100 %

Source: Processed Data (2021)

From table 2, it can be seen that the majority of respondents are aged 23-28 years, with a total of 22 people (53%). Respondents aged 17-22 years amounted to 15 people (37%), respondents old 29-34 years amounted to 4 people (10%). And there are no respondents aged 35-40 years and > 40 years.

4.1.3. Education

The level of education affects the quality of reporting. In table 3 can be seen the results of research based on age as follows. From table 3, it can be seen that the majority of respondents have a high school education/ equivalent, with a total of 21 people (51%). Respondents have a Diploma level of education, totaling 12 people (29%), respondents having an undergraduate education level (S1) amounting to 9 people (20%), and Post Graduate (S2) totaling 0 (0%).

Table 3. Description of Respondents by Education

Education	Amount	Percentage
Senior High School	21	51%
Diploma	12	29%
Under Graduate	8	20%
Post Graduate	0	0%
Total	41	100 %

Source: Processed Data (2021)

4.2. Respondent's Level of Achievement

4.2.1. Respondents' Level of Achievement from the Application of Management Accounting (X1)

Based on the results of calculations and tests carried out to assess the Level of Achievement of Respondents (TCR) on the assessment of the Application of Management Accounting at RSIA Siti Hawa. General information was obtained, evaluating the variable of Management Accounting Application at RSIA Siti Hawa, which consisted of 12 questions. A total of 1 question with a percentage above 90% was declared Very Good, 5 questions with a rate of 80-90% were declared Good, and as many as 4 questions with a percentage between 55% - 79% were declared Unfavorable.

4.2.2. Respondents' Level of Achievement from Operational Strategy (X2)

Based on the results of calculations and tests carried out to assess the Respondent's Level of Achievement (TCR) on the assessment of the Operational Strategy variable at RSIA SITI HAWA, general information was obtained, the evaluation of the operational strategy variable at RSIA Siti Hawa which consisted of 14 questions. A total of 1 question with a percentage above 90% was declared very good, 12 questions with a rate of 80-90% were declared good, and 1 question with a ratio between 55% - 79% was declared less good.

4.2.3. Respondents Achievement Level of Waste Management Costs (Y)

Based on the results of calculations and tests carried out to assess the Respondent's Achievement Level (TCR) on the assessment of Waste Management Costs at RSIA Siti Hawa, general information is obtained, the assessment of the variable Cost of Waste Management at RSIA Siti Hawa which consists of 15 questions. A total of 9 questions with a percentage of 80-90% declared Good, and as many as 6 questions with a rate between 55% - 79% claimed Less Good.

4.3. Classic assumption test

The normality test results using the 1 Sample Kolmogorov-Smirnov test can be seen in table 4. From table 4, the residual value of the Management Accounting Application variable (X1) is 0.469, the residual value of the Operational Strategy variable (X2) is 0.947, and the residual value of the Waste Management Cost variable (Y) is 0.909, which is greater than 0.05, which means the data being tested normally distributed.

Table 4. Normality Test Results

		PAM	SO	BPL
Normal Parameters ^{a,b}	Mean	46,3500	60,5500	59,5500
	Std. Deviation	6,53956	5,67984	4,82837
Most Extreme Differences	Absolute	0,190	0,117	0,126
	Positive	0,099	0,073	0,126
	Negative	-0,190	-0,117	-0,122
Kolmogorov-Smirnov Z		0,848	0,523	0,563
Asymp. Sig. (2-tailed)		0,469	0,947	0,909

Source: SPSS v23 processed data

The results of the multicollinearity test in this study can be seen in Table 5 below:

Table 5. Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
1		
	PAM	0,809 1,236
	SO	0,809 1,236

Source: SPSS v23 processed data

To determine the multicollinearity test, it is obtained from the tolerance column and VIF in the statistical collinearity section of table 5, so it can be concluded that:

1. The perception variable on the application of management accounting does not show symptoms of multicollinearity because it has a VIF value of 1.236, which is smaller than 10.
2. The operational strategy perception variable is stated to have no symptoms of multicollinearity because it has a VIF value of 1.236, which is smaller than 10.

The following is a graph of scatterplots to determine the presence or absence of heteroscedasticity:

Scatterplot Graph

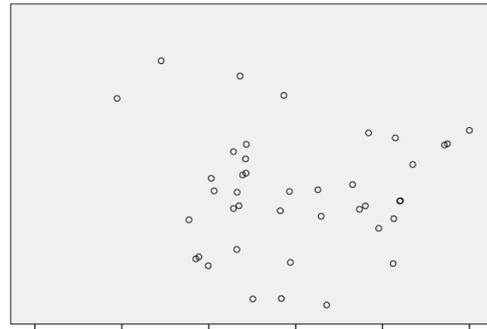


Figure 1 Heteroscedasticity Test

The scatterplot graph shows that the points spread randomly above and below the number 0 on the Y-axis. It can be concluded that there is no heteroscedasticity in the regression model, so the regression model is feasible to be used for further testing.

4.4. Quantitative Analysis

4.4.1. Multiple Linear Analysis

The multiple linear regression equation resulting from data processing is adopted from the coefficients table presented in table 6 below.

Table 6. Results of Multiple Linear Analysis of Coefficients

Model	Unstandardized Coefficients	
	B	Std. Error
(Constant)	28,178	6,699
1		
	PAM	0,373 0,110
	SO	0,244 0,116

Source: SPSS v23 processed data.

To determine the multiple linear regression analysis obtained from column B in the unstandardized coefficients table 6, the regression equation can be drawn as follows:

$$BPL = 28,178 + 0,373PAM + 0,244SO + 6,699e$$

From the information above, it can be concluded that:

1. The positive constant (a) value of 28.178 can be interpreted if the Application of Management Accounting (X1) and Operational Strategy (X2) increases by one unit, then the Waste Management Cost will increase by 28.178 units.

2. The value of the variable coefficient of Management Accounting Application (X1) is 0.373, meaning that every change in the Management Accounting Application variable (X1) by one unit will increase the Waste Management Cost (Y) by 0.373 units assuming other variables are held constant.

3. The coefficient value of the Operational Strategy (X2) variable is 0.244, meaning that every change in the Operational Strategy (X2) variable by one unit will increase the Waste Management Cost (Y) by 0.244 units assuming other variables are held constant.

4.4.2. Coefficient of Determination

Analysis of the coefficient of determination in multiple linear regression is used to determine the percentage contribution of the influence of the independent variables consisting of the Implementation of Management Accounting (X1) and Operational Strategy (X2) simultaneously on Waste Management Costs (Y).

Table 7. Coefficient of Determination

Model	R	R Square	Adjusted R Square
1	0,647a	0,419	0,388

Source: SPSS v23 processed data

According to Ghazali, the coefficient of determination is seen from the Adjusted R Square number [18]. Based on the table above, the Adjusted R Square number is 0.388 or 38.8%; this shows that the percentage of the contribution of the independent variable The Treatment of Management Accounting Application (X1) and Operational Strategy (X2) explains the dependent variable Waste Management Costs (Y) of 0.388 or 38.8%. In contrast, other variables explain the remaining 61.2% outside of this study.

4.5. Hypothesis test

The results of the t-test from this study can be presented in table 8 below:

Table 8. t-test results

Model	T	Sig.
(Constant)	4,207	0,000
1 X1	3,385	0,002
X2	2,110	0,042

source: SPSS v23 processed data.

To determine the multiple linear regression analysis obtained from column t and Sig from table 4.14. Testing the t test results was obtained using a significance level of 0.05 ($\alpha = 5\%$) and the t table at a significance of 0.05 two-way test with degrees of freedom (Ghazali, 2016: 188). So that we get $df\ n-k = 41-3 = 38$, (n is the number of respondents and k is the number of independent variables) with a table value of 2.0244 (see table attachment), the t-test results can be seen in the SPSS output from table 4.14. above is known as follows:

1. The calculated t-value of the Management Accounting Application variable is 3.385, more significant than the t-table value of 2.0244. In addition, the probability value of the calculation obtained is 0.002, which is smaller than the value of 0.05 used. Thus, implementing management accounting partially has a significant effect on the cost of waste management.

2. The calculated t-value of the Operational Strategy variable is 2.110, which is greater than the t-table value of 2.0244. In addition, the probability value of the calculation obtained is 0.042, which is smaller than the value of 0.05 used. Thus it can be concluded that the Operational Strategy partially has a significant effect on Waste Management Costs.

The F test looks at the calculated F value and the sig value. ANOVA table of SPSS outputs. The test results are presented in Table 9

Table 9. ANOVA Test Result

Model	F	Sig.
1 Regression	13,680	0,000b

source: SPSS v23 processed data

From the table, it is known that the F value is 13,680 which is greater than the table F value, namely $df1 = k-1 = 3-1=2$ and $Df2 = n- k = 41-3= 38$ of 3.24 and the sig value resulting from the calculation is $0.000 < 0.05$. Thus, it can be concluded that the variables of Management Accounting Application (X1) and Operational Strategy (X2) simultaneously have a significant effect on Waste Management Costs (Y).

5. DISCUSSION

5.1. The Effect of Environmental Management Accounting Application on Waste Management Costs

The results showed an influence between the variables of the application of environmental management accounting on the cost of waste management at RSIA Siti Hawa. It is known from the t

test results that the t count is 3.385, which is greater than the t table 2.0244. In addition, the probability value of the calculation obtained is 0.002, which is smaller than the value of 0.05 used. Thus, it can be concluded that the application of Environmental Management Accounting partially has a significant effect on Waste Management Costs.

By applying environmental management accounting, the environment around the company will be maintained so that environmental damage can be controlled. With the implementation of environmental management accounting, the cost of waste management waste will be held. Research conducted by Aldy V. J Ratulangi proves that the application of environmental management accounting to waste management costs has been appropriately implemented [2]. These environmental costs are included in direct personnel expenditures and indirect personnel expenditures. The application of environmental management accounting in textile companies in Bandung is considered good. This is evidenced by the physical implementation (regulation of materials, energy, and water and emission and waste treatment) and the allocation of the company's monetary, environmental costs. The costs included in environmental prices are maintenance costs, prevention costs, purchasing raw materials for production, processing costs for products, saving environmental costs [3].

Hasmoro Gautoma proves that the hospital management already knows the importance of environmental performance in sustainable development [22]. The costs associated with hospital waste treatment are identified for several expenses: liquid waste, solid waste, and non-medical waste. The costs incurred for waste management are recognized at the transaction time, presented, and disclosed in the hospital operational report [1]. One of the environmental activities carried out by hospitals is the activity of processing waste generated from hospital operational activities. Waste generated from hospital operational activities is solid and liquid waste.

5.2. Effect of Operational Strategy on Waste Management Costs

The results showed an influence between the operational strategy variables on the cost of waste management at RSIA Siti Hawa. It is known from the t test results that t count 2.110 is more significant than t table 2.0244. In addition, the probability value of the calculation obtained is 0.042, which is smaller than the value of 0.05 used. Thus, it can be concluded that the Operational Strategy partially has a significant effect on Waste Management Costs.

The operational strategy has a function to manage all parts' work properly. If the company's operations have set operational standards for work correctly, then the existing waste management in the company will be minimized so that waste management costs are controlled.

The hypothesis test results of the company's strategy on environmental management accounting have a positive and significant effect on environmental management accounting [19]. Information disclosed from the environmental performance can be in strategies, policies, activities, performance itself, and expenditures related to the environment [20]. Corporate responsibility for the environment can also be seen as a business strategy for long-term investment decisions to position the company to live in a conducive and competitive cost environment [21].

The strategy taken by the company to minimize waste management costs can be by reducing the use of raw materials, minimizing the use of hazardous materials, minimizing energy requirements for production, minimizing the release of solid, liquid, gel, and gas waste, maximizing waste recycling [2].

5.3. The Effect of Management Accounting Application and Operational Strategy on Waste Management Costs

The results showed that the application of Management Accounting (X1) and Operational Strategy (X2) simultaneously had a significant effect on Waste Management Costs at RSIA SITI HAWA. The F test results show that the calculated F is 13,680, which is greater than the F table value, namely $df_1 = k-1 = 3-1=2$ and $df_2 = n-k = 41-3 = 38$ of 3.24 and the value of sig resulting from the calculation is $0.000 < 0.05$. Thus, it can be concluded that the variables of Management Accounting Application (X1) and Operational Strategy (X2) simultaneously have a significant effect on Waste Management Costs (Y).

Intan Saputra Rini researched the Tabanan Regional General Hospital Agency (BRSUD) [23]. The results of his research indicate that waste treatment at BRSUD Tabanan has been appropriately implemented. Waste generated from hospital operational activities is solid waste and liquid waste. The reliable waste treatment carried out by BRSUD uses an incinerator, while the liquid waste treatment uses a wastewater treatment plant (WWTP). Siska Ayu Intan Pertiwi researched waste treatment at the Semboro sugar factory [24]. The results show that environmental cost management is by PSAK. In terms of recording waste management by entering the costs incurred into the factory estimate in the treatment of waste management

by the existing PSAK, some sub-sections are still not the same.

Fika Erisya Islamey proves the costs associated with hospital waste management for several costs: liquid, solid, and non-medical waste [1]. Sanjaya Aji Mahardhika researched company waste management in Karanganyar Regency [2]. The things that underlie companies disclosing their environmental costs are management needs to control high costs, government regulations, voluntary business initiatives, public reporting. The company has incurred environmental costs but did not specifically identify the ecological costs incurred because these ecological costs are recognized as production costs. This is in line with research conducted by Siska Ayu Intan Pertiwi [24]. According to the company, environmental costs are costs incurred related to tackling ecological impacts, both for the management of waste generated by the company's operations and social effects due to the company's operational activities.

6. CONCLUSION

6.1 Conclusion

1. The application of environmental management accounting partially affects the cost of waste management. This can be seen from the value of $t_{count} > t_{table}$ ($3.385 > 2.0244$) or a significant value of 0.002, more diminutive than 0.05. This means that every increase in the application of environmental management accounting impacts increasing management costs at RSIA Siti Hawa.

2. Operational strategies partially affect the cost of waste management. This can be seen from the value of $t_{count} > t_{table}$ ($2.110 > 2.0244$) or a significant deal of 0.042, more diminutive than 0.05. This means that every operational strategy increase increases management costs at RSIA Siti Hawa.

3. The application of environmental management accounting and operational strategies simultaneously affects the cost of waste management; this can be seen from the value of $F_{count} > F_{table}$ ($13.680 > 3.24$) or a significant value of 0.000, which is smaller than 0.05. This means that the better the improvement in environmental management accounting and operational strategies, the higher the management costs at RSIA Siti Hawa.

6.2 Suggestion

1. From the results of this study, it is known that the application of environmental management accounting has a significant influence on the cost of waste management. This can be a matter of concern for company management. Because the application of

environmental management accounting must be improved in quality, it significantly influences the cost of waste management. So that the better the quality of the application of environmental management accounting, the fewer costs will be incurred so that waste management will be better

2. In the results of this study, it is known that the operational strategy has a significant effect on the cost of waste management. If the company's operations run well, less waste will be produced so that waste management will be more effective.

3. For further research, you can continue or develop this research by using other research objects or adding other variables.

REFERENCES

- [1] Islamey Fika Erisya. 2016. *Perlakuan Akuntansi Lingkungan Terhadap Pengelolaan Limbah Pada Rumah Sakit Paru Jember*. Jurnal Fakultas Ekonomi Universitas Muhammadiyah, Jember: Juli.
- [2] Ratulangi, A. V., Pangemanan, S., & Tirayoh, V. (2018). Analisis penerapan akuntansi lingkungan terhadap biaya operasional pengelolaan limbah pada rumah sakit pancaran kasih manado. *Going Concern: Jurnal Riset Akuntansi*, 13(03).
- [3] Mahardhikam Sanjaya Aji. (2017). Analisis Perlakuan Biaya Pengolahan Limbah pada PT. Indo Acidatama, Tbk. Kabupaten Karanganyar. Skripsi. Fakultas Ekonomi dan Bisnis Islam Institut Agama Islam Negeri, Surakarta.
- [4] Sawitri, P., & Arief Bachtiar. (2014). Akuntansi Pengantar. In Akuntansi Pengantar. <https://doi.org/10.9744/jmk.13.2.151-161>
- [5] Hery. (2019). Akuntansi Dasar 1 dan 2. FUNDAMENTAL MANAGEMENT JOURNAL.
- [6] Wibowo, S., & Arif, A. B. (2016). Akuntansi Keuangan Dasar 2. In Jakarta:Grasindo.
- [7] Hasibuan, S. (2016). Manajemen Lingkungan. Manajemen Lingkungan.
- [8] Ikhsan, A. (2014). Akuntansi Manajemen Lingkungan. Graha Ilmu.
- [9] Mulyanti, D. (2017). Manajemen Keuangan Perusahaan. Jurnal Ilmiah Akuntansi.
- [10] Simamora, H. (2017). Akuntansi Manajemen. Edisi III. In Akuntansi Manajemen.
- [11] Ikhsan, A. (2014). Akuntansi Manajemen Lingkungan. Graha Ilmu.

- [12] Fandy Tjiptono dan Gregorius Chandra. (2018). Pemasaran Strategi. In Andi Office.
- [13] Rudianto. (2015). Akuntansi Manajemen Informasi untuk Pengambilan Keputusan Strategis. In Akuntansi Manajemen.
- [14] Mathis, R. L., & Jackson, J. H. (2017). Manajemen Sumber Daya Manusia. In Manajemen Sumber Daya Manusia.
- [15] Sekaran, U. (2014). Research methods for business metedologi penelitian untuk bisnis. In 1. <https://doi.org/10.1353/pla.2008.0010>
- [16] Agussalim, M. (2015). Statistik lanjutan. Ekasakti Press. Padang.
- [17] Sugiyono. (2015). Metode Penelitian. Metode Penelitian.
- [18] Ghozali, I. (2016). Aplikasi Analisis Multivariate dengan Program IBM SPSS 23 (Edisi 8). Cetakan Ke VIII. Badan Penerbit Universitas Diponegoro.
- [19] Rahayu, A., Sari, R. N., & Al Azhar, L. Analisis Pengaruh Penerapan Akuntansi Manajemen Lingkungan dan Strategi terhadap Inovasi Produk dan Inovasi Proses (Studi Empiris pada Perusahaan Manufaktur yang Terdapat di Provinsi Riau) (Doctoral dissertation, Riau University).
- [20] Sari, S. D. G. P. (2016). Pengaruh Penerapan Akuntansi Lingkungan terhadap Kinerja Lingkungan pada PTPN Pabrik Gula Takalar (Doctoral dissertation, Universitas Islam Negeri Alauddin Makassar).
- [21] Hasanah, J., & Destalia, M. (2017). Pengaruh Pengungkapan Biaya Lingkungan Sesuai Psak 33 Dan Peraturan Pemerintah Nomor 78 Tahun 2010 Terhadap Kinerja Keuangan. *Journal of Applied Business Administration*, 1(2), 296-304.
- [22] Franciska, R. M., Sondakh, J. J., & Tirayoh, V. Z. (2019). Analisis Penerapan Akuntansi Biaya Lingkungan Pada PT. Royal Coconut Airmadidi. *Going Concern: Jurnal Riset Akuntansi*, 14(1).
- [23] Indrawati, N. M., & Rini, I. G. A. I. S. (2018). Analisis Penerapan Akuntansi Lingkungan pada Badan Rumah Sakit Umum Daerah (BRSUD) Tabanan. *KRISNA: Kumpulan Riset Akuntansi*, 9(2), 85-95.
- [24] Pertiwi, S. A. I. (2017). Analisis Penerapan Akuntansi Lingkungan Terhadap Pengelolaan Limbah (Studi Kasus Pada Pabrik Gula Semboro) (Doctoral dissertation, UNIVERSITAS MUHAMMADIYAH JEMBER).